

IN CASE OF TRANSPORTATION EMERGENCY CONTACT:

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## 1. IDENTIFICATION

MSDS Name: Diethylene Glycol Monobutyl Ether

Synonyms: Butyl Carbitol, Glycol Ether DB, Butyl Di Glycol

## 2. HAZARDS IDENTIFICATION

Appearance and Odor: Clear. Liquid. Ethereal.  
Health Hazards: Irritating to Eyes  
Safety Hazard: Not classified as FLAMMABLE, but will burn  
HEALTH HAZARD:

Skin Contact:  
May cause moderate irritation to skin. Repeated exposure may cause skin dryness or cracking.

Eye Contact:  
Irritating to eyes

Signs and Symptoms:  
Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters.

Aggravated Medical Condition:  
Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Skin  
Eyes

## 3. COMPOSITION

CAS # 112-34-5  
CHEMICAL NAME: DIETHYLENE GLYCOL MONOBUTYL ETHER  
EINECS# 203-961-6  
HAZARD SYMBOLS: XI  
RISK PHRASES 36

## 4. FIRST AID MEASURES

General Information:	In general no treatment is needed, however obtain medical advise.
Inhalation:	Remove to fresh air
Skin Contact:	Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available
Eye Contact:	Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment.
Ingestion:	If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
Advise to Physician:	consult a poison control center for guidance

## 5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Flash Point	105°C (221°F)
Explosion/Flammability (Limits in air)	0.9 - 5.9 % V
Auto ignition Temperature	225°C (437° F)
Specific Hazards	Carbon monoxide may be evolved if incomplete combustion occurs. The vapor is heavier than air, spreads along the ground and distant ignition possible.
Extinguishing Media	Alcohol-resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Do not discharge extinguishing waters into the aquatic environment.
Unsuitable Extinguishing Media	Do not use water jet
Protective Equipment for Firefighters	Wear all protective clothing and self-contained breathing apparatus
Additional Advise	Keep adjacent containers cool by spraying with water

## 6. ACCIDENTAL RELEASE MEASURES

Observe all relevant local and international regulations

### PROTECTIVE MEASURES

Avoid contact with spilled or released material. Immediately remove all contaminated clothing. For guidance on selection of personal protective equipment see Section 8 of this MSDS. For guidance on disposal of spilled material see Section 13 of this MSDS. Shut off leaks, if possible, without personal risk. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapor or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grouping (earthing) all equipment. Monitor area with combustible gas indicator.

## CLEAN UP METHODS

For large spills (> 1 drum), transfer by mechanical means, such as vacuum truck, to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of it safely.

## ADDITIONAL ADVISE

See Section 13 for information on disposal. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

## 7. HANDLING AND STORAGE

### General Precautions:

Avoid breathing of or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Section 8 of the MSDS. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

### Handling:

Handling temperature: AMBIENT

### Storage:

Must be kept inhibited during storage and shipment as material can polymerize. Storage temperature; AMBIENT

### Product Transfer

Keep containers closed when not in use. Do not use compressed air for filling, discharging or handling.

### Recommended Materials

For containers, or container linings use mild steel, or stainless steel

### Container Advise

Containers, even those that have been emptied, can still contain explosive vapors. Do not cut, drill, grind, weld, or perform similar operations on or near containers.

### Additional Information

Glycol Ethers can be peroxide formers

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### Occupational Exposure Limits

None Established.

### Additional Information:

Wash hands before eating, drinking, smoking and using toilet.

### Exposure Controls

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate explosion proof ventilation to control airborne concentrations below the exposure guidelines/limits. Eye washes and showers for emergency use.

### Personal Protective Equipment:

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE supplier.

### Respiratory Protection:

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect workers health, selected respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for organic gases and vapors [boiling point > 65oC (149oF)] meeting EN141. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.

#### Hand Protection

Longer term protection: PVC. Nitrile rubber. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, and dexterity. Always seek advice from glove supplier. Contaminated gloves should be replaced.

#### Eye Protection

Chemical splash goggles (chemical mono-goggles)

#### Protective Clothing

Use protective clothing which is chemical resistant to this material. Safety shoes and boots should also be chemical resistant.

#### Environmental Exposure Controls

Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapor.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	CLEAR LIQUID
ODOR	ETHEREAL
BOILING POINT	TYPICAL 225 - 234°C (437-454° F)
FLASH POINT	105° C / 221°F (abel)
EXPLOSION/FLAMMABILITY (limits in air)	0.9 - 5.9 % (V)
AUTO-IGNITION TEMPERATURE	225° C / 437° F (ASTM D-2155)
VAPOR PRESSURE	5.5 Pa @ 20°C / 68° F
SPECIFIC GRAVITY	0.95 0.96 @ 20°C / 68° F
WATER SOLUBILITY	@ 20°C / 68° F Completely miscible
VOLATILE ORGANIC CARBON CONTENT	100%
EVAPORATION RATE (nBuAc=1)	0.01 (ASTM D 3539, nBuAc=1)

## 10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of use. Reacts with strong oxidizing agents.

Conditions to Avoid: High Temperatures. Avoid heat, sparks, open flames, and other ignition sources.

Materials to Avoid: Aluminum Strong oxidizing agents. Acids. Strong bases. Salts of strong bases.

#### Hazardous Decomposition

Products: Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids, and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

Hazardous Reactions: Hydroscopic

## 11. TOXICOLOGICAL INFORMATION

Basis for Assessment	Information given is based on product testing
Acute Oral Toxicity	Low toxicity: LD50 > 2000 mg/kg, rat
Accute Dermal Toxicity	Low toxicity: LD50 > 2000 mg/kg, rabbit
Acute Inhalation Toxicity	Low toxicity: LC50 > near saturated vapor concentration 1 hour rat
Skin Irritation	Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis
Eye Irritation	Irritant
Sensitization	not a skin sensitizer
Repeated Dose Toxicity	Blood; causes haemolysis of red blood cells and/or anemia in animals, but not considered relevant for man
Mutagenicity	Not mutagenic

## 12. ECOLOGICAL INFORMATION

### ACUTE TOXICITY

FISH	Low toxicity: LC/EC/IC50 > 1000 MG/L
AQUATIC INVERTEBRATES	Low toxicity: LC/EC/IC50 > 1000 MG/L
ALGAE	Expected to have low toxicity: LC/EC/IC50 > 1000 MG/L
MICROORGANISMS	Low toxicity: LC/EC/IC50 > 100 MG/L

MOBILITY	Dissolves in water
Persistence/Degradability	Readily biodegradable Oxidizes rapidly by photochemical reactions in air
Bioaccumulation	Not expected to bioaccumulate significantly

## 13. DISPOSAL CONSIDERATIONS

### MATERIAL DISPOSAL

Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.

### CONTAINER DISPOSAL

Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not puncture, cut or weld un-cleaned drums. Send to drum recover or metal re-claimer.

### LOCAL LEGISLATION

Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.

## 14. TRANSPORT INFORMATION

US Department of Transportation Classification (49CFR)

This material is not subject to DOT regulations under 49 CFR parts 171 – 180.

### IMDG

This material is not classified as dangerous under IMDG regulation

### IATA (Country variations may apply)

This material is not classified as dangerous under IATA regulations

## 15. REGULATORY INFORMATION

### US FEDERAL

#### TSCA

CAS# 112-34-5 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List. Chemical Test Rules

CAS# 112-34-5: Testing required by: manufacturers; importers; processo Section 12b

CAS# 112-34-5: 4/12b

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

### SARA

#### Section 302 (RQ)

None of the chemicals in this material have an RQ.

#### Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

### SARA Codes

CAS # 112-34-5: acute, chronic, reactive.

### Section 313

This material contains Diethylene glycol monobutyl ether (listed as

\*\* undefined \*\*), 100 0%, (CAS# 112-34-5) which is subject to the reporting requirements of Section 313 of SARA Title III and 40

### CFR

Part 372.

### Clean Air Act:

CAS# 112-34-5 listed as \*\* no name \*\* is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority

Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants

under the CWA.

### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

### STATE

Diethylene glycol monobutyl et can be found on the following state right to know lists: Pennsylvania, (listed as \*\* no name \*\*).

California No Significant Risk Level:

None of the chemicals in this product are listed. European/International Regulations

European Labeling in Accordance with EC Directives Hazard Symbols: XI

### Risk Phrases:

R 36 Irritating to eyes.

### Safety Phrases:

S 24 Avoid contact with skin.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

### WGK (Water Danger/Protection)

CAS# 112-34-5: 1

### United Kingdom Occupational Exposure Limits

### Canada

CAS# 112-34-5 is listed on Canada's DSL List.

This product has a WHMIS classification of B3, D2B.

CAS# 112-34-5 is listed on Canada's Ingredient Disclosure List. Exposure Limits  
CAS# 112-34-5: Not available.

## 16. OTHER INFORMATION

ALWAYS COMPLY WITH ALL APPLICABLE INTERNATIONAL, FEDERAL, STATE AND LOCAL REGULATIONS REGARDING THE TRANSPORTATION, STORAGE, USE AND DISPOSAL OF THIS CHEMICAL.

Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

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